

REMARKS

Reconsideration and allowance in view of the foregoing amendments and the following remarks is respectfully requested.

By this Amendment, claims 14-23 and 25-26 are amended to at least correct minor grammatical errors and to conform the claims according to commonly accepted US patent practice.

Rejections under 35 USC 112, second paragraph

Claims 14-26 are rejected under 35 USC 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. As indicated above, claims 14-22 and 25-26 are amended to obviate the rejections thereto. At a minimum, claims 25 and 26 are amended to depend from claim 24; claim 14 is amended to remove the limitation "the first pulses;" claim 21 is amended to define the term "FP;" and claim 22 is amended to obviate rejections based upon lack of antecedent basis. Withdrawal of the rejections is respectfully requested.

Rejections under 35 USC §102(b)

The rejection of claims 14, 15, 20 and 23-26 under 35 USC §102(b) as being anticipated by US Patent 4,562,438 to Rouse et al. ("Rouse") is respectfully requested. A rejection based on 35 U.S.C. §102 requires every element of the claim to be included in the reference, either directly or inherently.

The recited signal processing method provides a solution to the technical problem that in order to provide an accurate Doppler analysis of received signals, significant computation time is required. The amount of time required may make it impossible to process in "real time" the entire signal corresponding to a recurring signal before the arrival of a signal corresponding to a next occurrence.

One solution may be a quantitative solution that limits analysis to a range comprising a

certain time Δt , less than the recurrence period, the time during which the received signal is processed. The Applicants, however, disclose a much more qualitative process.

The recited method involves processing the received signal only when the signal corresponds to an object of interest. In order to accomplish this, the method includes analyzing two reception channels corresponding to two different parts of the transmitted signal. One channel is used to process a Doppler tolerant signal to detect objects and select ones likely to be of interest. The second channel is used to operate a Doppler classification using the Doppler intolerant signal, but only on the parts of the signal that correspond to the selected objects, thus significantly reducing the computational load.

Rouse appears to disclose a device and method for detecting a low-level short time echo blanked by a strong long time echo. However, unlike the Applicants' method, Rouse appears to analyze both the short time echo and the long time echo, regardless of the result of the other signal. Nowhere does Rouse disclose, teach, or suggest "applying a matched filtering to the signal received corresponding to the second Doppler intolerant broadband pulse," based upon "detecting objects performed on the part of the signal received corresponding to the first Doppler tolerant broadband pulse," as recited in claim 14.

Accordingly, because Rouse does not disclose, teach or suggest each and every limitation recited in claim 14, the rejection of claim 14 under 35 U.S.C. §102(b) is improper. Applicants respectfully submit, therefore, that independent claim 14 is patentable over Rouse.

Claims 15 and 20 depend from independent claim 14 and are likewise patentable over Rouse at least for their dependence on an allowable base claim, as well as for additional features they recite.

Claims 24-26 are amended to depend from claim 23, which is rewritten in independent form and further clarifies the relationship between the processing of the first channel and the second channel, such that "selecting in the second channel objects based upon the provided alarms that satisfy at least a predetermined energy criterion." Applicants respectfully submit, therefore, that independent claim 23 is likewise patentable over Rouse. Claim 24-26 depend from amended claim 23 and are likewise patentable over Rouse at least for their dependence on an allowable base claim,

as well as for additional features they recite.

Withdrawal of the rejection under 35 USC §102(b) over Rouse is respectfully requested.

Rejections under 35 USC §103(a)

Claims 16-19 and 22-24 are rejected under 35 USC §103 as being unpatentable over Rouse as applied to claim 14 above, and further in combination with Carmillet et al. ("Carmillet"). These rejections are respectfully traversed.

Applicants respectfully submit that, as discussed above, independent claims 14, as amended, is patentable over Rouse. Applicants further submit that the sonar detection of Carmillet likewise fails to disclose the two step approach, as recited in claim 14. Applicants respectfully submit, therefore, that the combination of Rouse and Carmillet fails to disclose, teach or suggest all the features recited in claim 14. Accordingly, claim 14 is patentable over the asserted combination, and claims 16-19 are likewise patentable over the asserted combination of references at least in view of their dependence on claim 14.

Independent claims 22 and 23 are similar to claim 14 in that they both perform a classification of second channel objects based upon a selected first channel detected alarm. As argued above, Rouse fails to disclose this feature. Applicants respectfully submit that Carmillet, likewise, fails to disclose this feature. Claim 24 depends from claim 23 and is likewise patentable over the Rouse at least for their dependence on an allowable base claim, as well as for additional features they recite. Withdrawal of the 35 USC §103(a) rejection over Rouse and Carmillet is respectfully requested.

Claim 21 is rejected under 35 USC §103 as being unpatentable over Rouse as applied to claim 20 above, and further in combination with US Patent 2,431,854 to Wood. This rejection is respectfully traversed. As presented above, claim 20 is patentable over Rouse. As presented above, Rouse appears to only disclose a device and method for detecting a low-level short time echo blanked by a strong long time echo. Wood, on the other hand, appears to only disclose apparatus for suppressing reverberation in a single received pulse and fails to remedy the deficiencies of Rouse regarding the processing of two pulses, wherein the amount of time required to process the

signals is reduced by linking the processing of the second channel to the results of processing in the first channel.

Moreover, Applicants respectfully submit that the combination of Rouse and Wood is improper, and appears to be based on hindsight reasoning. Applicants respectfully submit that the problems solved by Rouse and Wood are of a different nature and neither Rouse nor Wood suggest the desirability of combining such teachings. It is improper to use the claimed invention as an instruction manual to piece together the teachings of the prior art so that the claimed invention is rendered obvious. The Office Action appears to use improper hindsight reconstruction to pick and choose among isolated disclosures. Accordingly, it is respectfully submitted that the combination is improper.

Applicants respectfully submit that claim 21 is patentable not only due to the failure of Rouse in view of Wood to disclose, teach or motivate all recited features of the claims, but are also patentable based upon the improper combination of the asserted art. Withdrawal of the 35 USC §103(a) rejection over Rouse and Wood is respectfully requested.

Conclusion

All objections and rejections have been addressed. In view of the foregoing, Applicants respectfully submit that the application is in condition for allowance and favorable reconsideration and prompt allowance of claims 14-26 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 07-1337 and please credit any excess fees to such deposit account.

Respectfully submitted,

LOWE HAUPTMAN HAM & BERNER, LLP

A handwritten signature in black ink that reads "Kenneth M. Berner". The signature is written in a cursive, flowing style.

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